

## REMARKS

Applicants respectfully request that the above-identified application be re-examined.

The October 23, 2002, Office Action ("Office Action") in the above-identified application confirmed the previously made restriction requirement and noted that Claims 19-32 stand withdrawn from further consideration pursuant to 37 C.F.R. 1.142(b), as being drawn to a non-elected invention allegedly because no allowable generic or linking claim is contained in the application. Applicants respectfully disagree for the reasons set forth below and request that the restriction requirement be reconsidered.

In addition, Claim 1 was objected to for the alleged informality that "characterized" was spelled with a "s" rather than a "z." While applicants believe that both spellings are acceptable, in order to overcome this objection, the spelling of "characterised" has been changed to "characterized."

The Office Action also rejected Claims 1-13 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Various alleged indefiniteness recitations were set forth in this portion of the Office Action. As discussed more fully below, all of the objected-to recitations have been addressed either in the amendments to the claims submitted herewith and/or in the following discussion.

Finally, Claims 1-5 and 8-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of the teachings of U.S. Patent No. 5,383,687 (Suess et al.) taken in view of the teachings of U.S. Patent No. 4,960,651 (Pettigrew et al.). Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of the teachings of Suess et al. taken in view of the teachings of Pettigrew et al. and taken further in view of the teachings of U.S. Patent No. 5,762,377 (Chamberlain).

### Election/Restriction

While the Office Action acknowledged applicants' election with traverse of Group I, Claims 1-18, the Office Action stated that the traversal was not found to be persuasive. More specifically, the Office Action acknowledged that the traverse was on the grounds that since all other claims on file are dependent on Claim 1, all claims have the same "special technical features." The Office Action stated that the dependency on Claim 1 as a basis that all claims share the same technical features was not found to be persuasive because the special technical features of the claimed invention are not found to define a contribution of the prior art and no

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single inventive concept exists. Applicants respectfully disagree. In this regard, as discussed more fully below, applicants believe that Claim 1 is clearly allowable. Since the claims withdrawn from consideration (Claims 19-32) all depend from Claim 1, applicants submit that, if Claim 1 is found to be allowable, all of the claims will share the same technical features. As a result, the basis for the restriction requirement will no longer exist, whereby the restriction requirement should be withdrawn and Claims 19-32 allowed.

35 U.S.C. § 112

As noted above, the Office Action identified a number of alleged indefiniteness issues with respect to various ones of Claims 1-18.

Initially it is pointed out that Claim 1 has been amended to conform to the allowed language of Claim 1 contained in a corresponding European patent application. Instead of reciting "a diffraction grating device," Claim 1 now recites an "embossed pattern of a particular shape producing an optical diffraction effect." This change in wording is consistent with the specification of page 3, lines 12-15, as well as page 6, lines 15-17. A corresponding amendment has been made to Claim 8. Further, as noted above, Claim 1 has been amended to overcome the objection raised regarding the spelling of "characterised" set forth in paragraph 2 of the Office Action and discussed above.

The 35 U.S.C. § 112 rejection also requested clarification of the use of the term "soft" in Claims 1, 9, 10, and 15-18. The Office Action in effect stated that this is a relative term and, thus, indefinite. Accompanying remarks state the term "soft" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. Applicants respectfully disagree. Applicants respectfully point out that "soft" is included in the phrase "soft-magnetic layer," i.e., a layer formed of a soft-magnetic material. Soft-magnetic material is a term that is readily understood by a person of ordinary skill in the art. In this regard, applicants direct the Examiner's attention to the attached copy of page 1967 of the *McGraw-Hill Dictionary of Scientific and Technical Terms*. This page contains a definition of soft magnetic material. Furthermore, the specification contains clear directions suitable for enabling a person of ordinary skill in the art to practice this aspect of the claimed invention. Applicants further point out that one of the references cited by the Examiner, namely, Pettigrew (U.S. Patent No. 4,960,951), uses the term "soft-magnetic material and magnetically soft layer" throughout the specification and claims. As a result, applicants respectfully submit that this term is well known to those skilled in the art and, thus, the claims reasonably apprise one of ordinary skill in the art of the scope of the invention.

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Claim 1 has been amended to add antecedents for "the shape" and "the embossed pattern."

Regarding the objection to the phrase "at least partially" in Claim 1, Claim 1 has been amended to instead recite "at least part of the soft-magnetic layer has the shape of the embossed pattern." Applicants submit that this recitation clarifies that only part of the soft-magnetic layer need have the shape of the embossed pattern. As a result, applicants respectfully submit that the claim is now clear and in full compliance with 35 U.S.C. § 112. Regarding the recitation "the form of a diffraction grating device," this objection has been addressed above by the amendment to Claim 1.

Regarding Claims 9 and 10, the expression "consists essentially of" has been deleted and the term "comprises" inserted therefor. Claim 14 has been amended to obviate the objection raised by the Examiner. Claim 14 now recites that the security element has a single soft-magnetic layer.

Claim 15 has been amended to delete "material of the," which obviates the objection raised in the Office Action.

Regarding the recitation of "non-work-hardened layer" in Claim 16, this recitation is intended to make it clear in this dependent claim that the soft-magnetic layer is non-work-hardened. Work-hardening is a commonly understood engineering term relating to the working of metals to create increased hardness and/or strength. In this regard, attention is directed to the copy of page 2303 of the *McGraw-Hill Dictionary of Scientific and Technical Terms* attached to this response.

### 35 U.S.C. § 103(a) Rejections

Prior to discussing in detail why applicants believe that all the claims in this application are allowable over the cited references, a brief description of applicants' invention is set forth. The following discussion of applicants' invention is not provided to define the scope or interpretation of any of the claims of this application. Instead, this discussion is provided to help the United States Patent and Trademark Office better appreciate important claim distinctions discussed thereafter.

The present invention is directed towards providing a security feature in a valuable document. The security feature provides a way to verify that the valuable document is indeed the genuine article. The security feature provides for visual verification through an optical diffraction effect and provides a way for machine verification by detecting the magnetic properties of a soft-magnetic layer. The two verification means are intertwined since the magnetic effects of the soft-magnetic layer, which enable machine verification, are dependent

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upon the diffraction structure of the embossed layer. The two-level security device produces a unique machine-readable feature that is dependent on the interaction of the soft-magnetic layer with a pre-determined surface relief of the optical diffraction structure.

Suess et al. purportedly discloses a security feature that allows for verification of valuable documents. Pettigrew et al. purportedly discloses an anti-pilfering tag that is intended to stop the theft of articles of commerce. Pettigrew et al.'s anti-pilfering tags incorporate a soft magnetic material that, if not activated at the point of sale, will activate a detection system. Pettigrew et al. is only concerned with the prevention of theft of articles. Pettigrew et al. does not provide any guidance as to how a consumer may ascertain that a valuable document is a genuine article. Pettigrew et al. does not disclose any means of visually verifying the genuineness of an article. Applicants submit that Pettigrew et al. does not add anything to the field of verifying valuable documents, which is the area of applicability of the present invention. The Office Action simply does not establish a *prima facie* case of obviousness, i.e., why it would have been obvious to a person of ordinary skill in the art to combine the teachings of Suess et al. and Pettigrew et al. at the time the invention was made. Those of ordinary skill in the art would not look to the teachings of Pettigrew et al. for a security feature for a valuable document.

Even if it were possible to combine the teachings of Suess et al. and Pettigrew et al., the resulting combination would not meet the recitations of Claim 1, as amended. In this regard, as amended, Claim 1 reads as follows:

1. A security element comprising a magnetic layer and an embossed layer, the embossed layer having an embossed pattern of a particular shape producing an optical diffraction effect, characterized in that the magnetic layer is a soft-magnetic layer wherein at least part of the soft magnetic layer has the shape of the embossed pattern of the embossed layer whereby the embossed layer affects the magnetic properties of the soft-magnetic layer and the effects are detectable externally of the security element.

Pettigrew et al. discloses the use of anti-pilferage tags or markers incorporating layers of soft magnetic material, but there is no teaching or suggestion in Pettigrew et al. that the soft-magnetic material layer could have the shape of an embossed pattern, let alone the shape of an embossed optical diffraction structure. The magnetic layer disclosed by Suess et al. is ferromagnetic, i.e., a hard magnetic layer. The hard magnetic layer does not have the shape of the embossed pattern of the embossed layer. Accordingly, even if it were obvious to combine the teachings of Pettigrew et al. and Suess et al., which applicants specifically deny, the resultant combination would not meet the recitations of Claim 1. Neither reference teaches or suggests

substituting a soft-magnetic layer for a hard magnetic layer and/or forming the soft magnetic layer in the shape of an embossed pattern of an embossed layer.

In summary, applicants respectfully submit that there is no teaching or suggestion in either Suess et al. or Pettigrew et al. of how their individual teachings could be combined in any manner, much less combined in the manner recited in Claim 1. Clearly, the Office Action fails to establish a *prima facie* case of obviousness.

Applicants further submit that Pettigrew et al. teaches away from the structure of the present invention. Attention is directed to Column 3, line 39; Column 4, line 30; Column 4, line 60; and Column 11, line 10. Pettigrew et al. specifically teaches how one might beneficially affect the isotropy of the finished product and specifically describes the need for material and domain homogeneity. In contrast, the present invention specifically recites a soft-magnetic layer being formed on an optical diffraction structure so as to create an anisotropic effect. Pettigrew et al.'s teachings are thus contrary to the present invention.

In summary, neither Suess et al. nor Pettigrew et al. discloses a key aspect of the present invention--that the magnetic properties of a soft-magnetic layer can be affected by embossing to produce effects that are detectable externally of the security element. This key aspect results in a security document implementing a security element formed in accordance with the invention having a unique magnetic signature while providing visual verification.

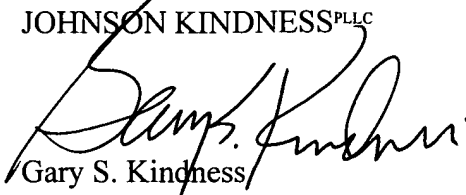
In view of the foregoing comments, applicants respectfully submit that Claim 1 is clearly allowable. Applicants further submit that all the remaining claims in this application (Claims 2-33) are also allowable since they depend directly or indirectly from Claim 1.

Finally, with respect to the dependent claims, new Claim 33 has been added. Claim 33 is dependent upon Claim 1 and recites that the thickness of the soft-magnetic layer is in the range of 150-700 nm. This range is supported by the specification at page 12, line 10. In contrast, Pettigrew et al. teaches a thickness of 1 micron up to 3 microns at page 5, lines 1-5. The intended application of Pettigrew et al. is for the detection of an interrogation gate, making a great thickness desirable. In contrast, the magnetic signature created by the present invention is better discriminated by a thickness of the soft-magnetic layer in the range recited in Claim 33.

In view of the foregoing comments and amendments, applicants respectfully submit that this application is now in condition for allowance. Consequently, early and favorable action withdrawing the restriction requirement and allowing all the claims in this application, as amended, is respectfully solicited.

Respectfully submitted,

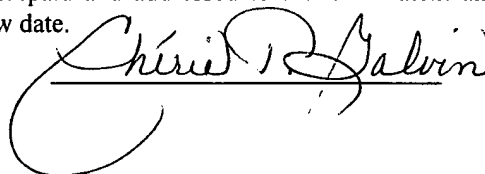
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